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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,189	Applicant(s) ONO ET AL.	
	Examiner CHARLES SHEDRICK	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malki et al. US patent Pub. No.: 2001/0046223 A1, hereinafter, "Malki" in view of Howe US Patent No. 7,054,636.

Consider **claims 1, 8, 15, 18, 25 and 28**, Malki teaches a method, control program (note: hereinafter interpreted as being stored on computer readable medium) and a mobile communication system composed of a home agent(**e.g., 345 of figure 3**), a mobile node(**e.g., mobile node 305 of figure 3**), and one or more correspondent nodes (**e.g., 335 of figure 3**), wherein said mobile node comprises: means for storing a assigned representative home address, one or more assigned subsidiary home addresses(**e.g., hierarchy address structure as noted in paragraphs 0012 and 0031 one or more home addresses formed by the home agent as noted in at least paragraph 0046 furthermore it is understood that the subsidiary home addresses are essentially "temporary" addresses based on the dynamic allocation(e.g., assign and return) of the subsidiary home address**), and a care-of address temporarily assigned in a network in which the mobile node is currently present(**e.g., see storage means referenced in at least paragraphs 0040-0041, paragraphs 0031-0032 discusses the home address, the equivalent of home subsidiary addresses such as registering w/ multiple anchor node RC/O address and LC/O address, 0056 discusses the ability to store future address, multiple c/o address in at least paragraph 0058 and home addresses again in at least paragraph 0046. note that the anchor point is sw or hw**); and means for making a registration request for joint information which relates the representative home address to all subsidiary home addresses and

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the care-of address to said home agent, each time the mobile node moves to other network, and is assigned a new care-of address(**e.g., binding all address information and performing binding updates when the information changes as noted in a at least the background 0009 which discusses the ability to bind multiple addresses in previous mobility systems and paragraphs 0032,0045-0046, 0049 and 0056 which refers to binding multiple addresses including home, home subsidiary and c/o addresses**), and wherein said home agent comprises: means for receiving the registration request for said joint information(**e.g., paragraph 0032 indicates the binding updates are sent to the Home agent**), and if a packet destined for the representative address or any secondary address arrives from any correspondent node, retrieving the joint information including the representative home address or the subsidiary home address, from a table in which the joint information is registered (**i.e., the binding cache as noted in at least paragraphs 0009 and 0032**), and transferring the packet to the care-of address corresponding to the address for which the packet is destined(**e.g., at least paragraph 0032 teaches packets are routed to mobile node via alternate c/o address which corresponds to the mobility anchor point with which the mobile node had registered, i.e., the RCOA. see also paragraph 0046 and figures 0010-0011**).

However, Malki does not explicitly teach where the addresses are preassigned.

In analogous art, Howe teaches preassigned addresses (**i.e., preassigned K unique addresses to the server and configuring the server to associate one of the preassigned IP addresses with the mobile terminal**)(**e.g., see at least col. 8 line 66 -col. 9 lines 20 and col. 10 lines 29-38**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Malki to include preassigned addresses for the purpose of

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communicating data to mobile terminals as taught by Howe.

Consider **claims 2, 9, 16, 19 and 26 and as applied to claims 1, 8, 15, 18 and 25** Malki as modified by Howe teaches wherein said mobile node comprises: means for registering a part of the subsidiary home addresses owned by said mobile node at the time of processing of the registration of said joint information, and managing the remaining as unregistered subsidiary home addresses(**e.g., the mobile node may have multiple home address and manages the address accordingly as noted in at least paragraph 0046-0047. furthermore Malki teaches support for N level hierarchy as noted in at least paragraphs 0012 and 0031. one of ordinary skill in the art would recognized that the pool of subsidiary addresses are actually a pool of temporary addresses binding additional addresses**);means for requesting additional registration of the unregistered subsidiary home addresses to the home agent at a given point in time (**e.g., registering with additional mobility anchor points as noted in at least paragraphs 0046-0047, 0059-0060 and as described with respect to at least figure 7 where the mobility anchor point registration is discussed**); and means for requesting deregistration of the registered subsidiary home addresses to the home agent (**e.g., deregistration can occur via a binding update as discussed in at least paragraph 0047, 0049 and 0057 and/or by setting the life time bit**), and wherein, if additional registration of a subsidiary home address is requested from the mobile node, said home agent comprises: means for adding the address to the corresponding joint information of the mobile node(**e.g., registering with additional mobility anchor points as noted in at least paragraphs 0046-0047, 0059-0060 and as described with respect to at least figure 7 where the mobility anchor point registration is discussed**); and if the deregistration of the subsidiary home address is requested, means for erasing the address

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from the corresponding joint information of the mobile node(e.g., **deletion from binding cache can occur via a binding update as discussed in at least paragraph 0045-0047, 0049 and 0057 and/or by setting the life time bit**), whereby the number of the subsidiary home addresses which will be used, out of the subsidiary home addresses owned by said mobile node may be dynamically changed(e.g., **at least paragraphs 0031-0032 0045-0047 teaches multiple address mgmt and binding updates to dynamically change the existing information**).

Consider **claims 3, 10, 17 , 20, 27 and 30 and as applied to claims 1,8, 15, 18 and 25** Malki as modified by Howe teaches wherein said mobile node comprises: means for requesting an assignment of a new subsidiary home address to the home agent(e.g., **registering with additional mobility anchor points as noted in at least paragraphs 0046-0047, 0059-0060 and as described with respect to at least figure 7 where the mobility anchor point registration is discussed**); and means for returning the assigned subsidiary home address(e.g., **at least paragraphs 0031-0032 0045-0047 teaches multiple address mgmt and binding updates to dynamically change the existing information**), and wherein, if the assignment of the new subsidiary home address is requested from the mobile node, said home agent comprises: means for selecting arbitrary address from an unassigned address group owned by the home agent to register this address with the joint information of the mobile node (e.g., **0 or more home addresses formed by the home agent as noted in at least paragraph 0046. Although the claim limitation indicates that the selection is arbitrary, the Examiner respectfully request that the Applicant carefully consider the term "arbitrary" within the context. In other words selecting an arbitrary address from a "structured" pool of addresses is somewhat contradictory**), and notifying the mobile node of it; and if the assigned subsidiary home address

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is returned from the mobile node, means for returning this to the unassigned addresses (**i.e., the address can be used within the network without conflict or re-addressed**), and erasing this from the joint information of the mobile node(**i.e., a binding update**), whereby the number of the subsidiary home addresses owned by the mobile node may be dynamically changed(**e.g., at least paragraphs 0031-0032 0045-0047 teaches multiple address mgmt and binding updates to dynamically change the existing information**).

Consider **claims 4, 11 and 21 and as applied to claims 1, 8 and 18**, Malki as modified by Howe teaches a plurality of mobile network nodes being located under said mobile node(**e.g., see at least figure 3**), these constituting a local network with said mobile node as a router, wherein said mobile node comprises: means for assigning the subsidiary home addresses to the mobile network nodes(**i.e., N level hierarchy as noted in at least paragraphs 0012 and 0031. one of ordinary skill in the art would recognized that the pool of subsidiary addresses are actually a pool of temporary addresses binding additional addresses**), and if a packet destined for the subsidiary home address assigned to the mobile network nodes arrives, transferring this to the corresponding mobile network node (**e.g., see routing as noted in at least paragraph 0032 with respect to the supporting features noted in at the background paragraphs 0031, 0012 and 0009**), whereby said mobile node performs location registration for the mobile network nodes in the local network managed by said mobile node by proxy, and transfers the packet destined for the mobile network node(**e.g., each node acts as proxy with respect to the mappings as noted in at least paragraph 0032 with respect to the supporting features noted in at the background paragraphs 0031, 0012 and 0009**).

Consider **claims 5, 12, 22 and 29 and as applied to claims 4, 11, 21 and 25**, Malki as

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modified by Howe teaches wherein if a new mobile network node is added within the local network, and the mobile network node requests an assignment of an address to the mobile node, said mobile node comprises: means for assigning any unregistered subsidiary home address to the mobile network node (**e.g., one or more home addresses formed by the home agent as noted in at least paragraph 0046.**), and requesting additional registration of this subsidiary home address to the home agent(**i.e., binding updates of the RCOA with the homes address as noted in at least paragraphs 0045-0047**); and if the mobile network node is deleted from within the local network, and the mobile network node notifies the mobile node of returning the subsidiary home address, means for requesting deregistration of this subsidiary home address (**i.e., binding update of all binding caches of the RCOA with the homes address as noted in at least paragraphs 0045-0047**), whereby the number of registration of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes(**i.e., binding update of all binding caches of the RCOA with the homes address as noted in at least paragraphs 0045-0047.**

Consider **claims 6, 13 and 23 and as applied to claims 4, 11 and 21**, Malki as modified by Howe teaches, wherein, if a new mobile network node is added within the local network managed by the mobile node, and the mobile network node requests an assignment of an address to the mobile node, said mobile node comprises: means for acquiring a new subsidiary home address from the home agent(**i.e., binding update of all binding caches of the RCOA with the homes address as noted in at least paragraphs 0045-0047. see 0046 in particular**), and assigning this to the mobile network node(**i.e., binding update of all binding caches of the RCOA with the homes address as noted in at least paragraphs 0045-0047**); and if the mobile

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network node is deleted from within the local network managed by the mobile node, and the mobile network node notifies the mobile node of returning the subsidiary home address, the mobile node comprises: means for returning the subsidiary home address to the home agent, whereby the number of the subsidiary home addresses owned by the mobile node is dynamically increased or decreased according to the added or deleted mobile network nodes(**i.e., binding update of all binding caches of the RCOA with the homes address as noted in at least paragraphs 0045-0047**).

Consider **claims 7, 14 and 24 and as applied to claims 1, 8 and 18**, Malki as modified by Howe teaches wherein, if the representative home address and any number of the subsidiary home addresses are simultaneously registered, updated, or deleted with respect to the home agent, said mobile node comprises means for transmitting information on all addresses in one message to the home agent(**i.e., binding update as noted in at least paragraphs 0045-0047**).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/
Examiner, Art Unit 2617

/LESTER KINCAID/
Supervisory Patent Examiner, Art Unit 2617